

## OREGON

By GEORGE FITCH

Oregon has been a State for twenty years, but did not work seriously at it until a few years ago, when it began to have booms, expositions, progressivism and constitutional conventions all at the same time. It is now a massive commonwealth with 700,000 people, the initiative and referendum, the recall, three rival railroad systems, 7000 real estate agents, and many other features which make sleep during business hours impossible within its borders.

Oregon has been known ever since Messrs. Lewis & Clark, the celebrated explorer's team, discovered it in 1804, but it took half a century to find some use for it. In 1850, Oregon was a raw and unknown interior with a rim of settled country around two sides. A railroad ran along these two sides and allowed the 175,000 Oregonians a small commission on their products, after deducting freight charges. About this time, however, it was discovered that by supplying an ordinary apple tree with an irrigation ditch, a trained nurse, a masseuse, an osteopath and soft music during the spring season, the famous Oregon apple could be produced. Since this discovery, Oregon has grown rapidly and is now covered with happy agriculturists lowering red apples out of their bedecked orchards with derricks and shipping them east to sell in Wall Street at 5 cents a bite.

Oregon still consists mostly of desert and forest, but is rapidly being conventionalized by the saw-mill and the irrigating ditch. It abuts California on the south and the Pacific Ocean on the west and is successfully separated from Washington by the Co-

lumbia River, which is still strongly impregnated with the famous red salmon which have brought more gold to Oregon than its placer mines in the southern counties.

Oregon has a large variety of climate, including perpetual snow on several extensive mountains, perpetual drought in its interior and perpetual rain in the vicinity of Portland, where



umbrellas are made without any closing device. Oregon people are enterprising, sociable and deeply interested in politics. According to the constitution is the favorite Oregon amusement, having practically displaced baseball, while public officials are so docile that if a legislator wishes to smoke a cigarette he does so behind the woodshed where the stern eye of the recall can not see him.

## COUNTY ENGINEER BISHOP OF HAWAII ON GOOD ROADS

Hawaii Herald, July 26: Advocating local roads being built with a six-inch sub-course and with a low crown so that the water will run off slowly instead of washing the surface away, for the width of the road to be only as much as is necessary for the traffic it will handle, for bituminous construction everywhere in the island except along the Hamakua coast where, owing to the weather conditions it is impossible to put down anything except a water-bound macadam, and a system of steady maintenance in order that the full value may be got out of the road and that the enormous amount of capital sunk in roads may not be thrown away, and the adoption of the State aid system. Engineer Bishop of the Loan Fund Commission gave an interesting and practical talk at the Board of Trade rooms on Tuesday night before a fair crowd.

Bishop went into the matter of "Good Roads" very thoroughly, his talk being illustrated by diagrams that helped the audience to grasp the subject very thoroughly. He traced the history of roads from the time the famous Appian way of the Romans was built in England right down to the present era of patented pavements. He branched into the matter of local conditions and gave his reasons for the specifications of the belt road, told his hearers why a water-bound macadam was necessary for wet districts and why bituminous pavements were better for dry, he explained the State aid system and dwelt upon the benefits to be derived from it and answered all questions that were asked.

Speaking of the methods now in vogue for raising money for road building purposes, Bishop quoted from an article in the "Good Roads Magazine." It is written by L. E. Boykin, an expert, and a synopsis follows:

There are seven methods of raising revenues for highway purposes, states Boykin: statute labor, private subscriptions, assessments upon abutting property, automobile licenses, direct taxation and bond issue and State aid. The statute labor method is fast going out of use although it was very common in the United States twenty years ago. It consisted of paying the taxes by personal labor instead of with money. The private subscription method has never been popular, owing to the fact that the building and care of public roads is a public function. Ten States have the abutting property system, in use in some form or another and the owners pay up without any protest. It has been successful wherever it has been adopted.

**Autos Injure Roads.** Coming down to the matter of automobiles and the tax on them he says that in 1912 there were 440,000 machines in use in the United States. They are injurious to the roads as they lift loose binding into the air, where it is blown away by the wind, and it is only right that they should bear their share of the cost. Massachusetts raises a fund of \$250,000 a year, from this source alone. The writer advocates that every State in the Union should pass a law requiring automobiles to pay a reasonable tax, the proceeds to be devoted to roads.

Coming to the matter of direct taxes and bond issues, he states: "More funds, however, are raised from these two sources than from any other way. These two may be said to be the natural methods of raising money for any form of public improvement. There are many who prefer a direct tax to a bond issue. The direct tax should undoubtedly be adopted for the maintenance of roads in all cases, but for original construction I do not believe that it is most to be preferred, except in those coun-

tries having taxable value sufficiently large so that a small tax levy will yield enough revenue to carry forward the work as rapidly as it should be carried, or as much each year as can be wisely expended. The great trouble with the direct tax is that the levy that would be required on the assessed valuation of most countries to raise sufficient funds for carrying the work would be too large and would impose too great an immediate burden upon the individual taxpayer.

**Retail Costs More.** As a result of the circumstances only a small levy would be imposed and a small annual fund realized, so that only a few miles of road could be improved each year. The smaller the mileage improved, annually the greater will be the cost per unit; it is a well known fact that it costs more to build roads by the retail than by the wholesale. One reason for this is that contractors cannot afford to equip themselves properly for handling the smaller contracts without making their bids proportionately higher.

In some of the States the direct taxation is against the farmers only, thus making them bear the burden of the cost of improving the roads while the city dweller reaps equally as much benefit but does not pay anything. The chief claim for the direct tax is that it enables you to pay as you go, provided you are able to make adequate progress under it.

**Explains State Aid.** Coming down to the matter of state aid Bishop said what was exactly meant by this method.

The money is raised by state bonds and is expended through a state department. The roads are classified into three kinds—state roads, county roads and town roads. The engineers in the state department plan and build the main thoroughfares of the state at no cost to the counties. These roads are such as connect the centers of population.

With the county roads the state builds them and the pavement is made partly from the state funds and partly from the county. The latter's share is based on the assessed valuation.

The state has absolutely no direct control over the streets of the cities and towns proper. At the same time the county government can receive state aid if it is wanted. The state insists that the counties build the roads—the advice of the state engineers being available at any time. At the end of the year when the state auditor has examined the books and the state engineer has approved the work the state will give dollar for dollar for what has been spent. By this method the great burden on the counties is lessened.

Nothing is forced on the county and nothing is taken away. In our own case the Territory would issue bonds and the counties would be charged back in proportion.

**Maintenance.** Dealing with the matter of the cost of maintenance, Bishop gave the following figures, which include everything. The figures are for a mile of road:

Original cost	\$15,000
Cost to resurface	5,000
Life of top surface	10 years
Rate of interest	4 per cent
<b>Annual Cost</b>	
Interest	\$ 600
Depreciation	417
Maintenance	500
	\$1,517

The depreciation is based on the sum necessary to amount to \$5000 at the end of ten years, when the road needs resurfacing.

**Bonds.** Bond issues should be limited to original construction work. Bonds should never be issued for maintenance work, but for improvement of main highways only. It is therefore a

## MUST ARRANGE WITH TERRITORY FOR KAU WATER

Now that the Kau ditch bill has been passed and the big improvement duly authorized, by the President's signature, a new subject of much importance will come before the Territorial authorities in the very near future, when the promoters present a proposition to the government as the basis of a request for the necessary water license.

As the flow through the proposed ditch will come from a high elevation on the Hilo side of Hawaii, the promoters and the Territory must reach an agreement as to the amount of water that can be taken, leaving a sufficient supply to insure the protection of the residents on the Hilo side. The amount of compensation, the license fee and a number of questions of similar character must be determined.

The promoters are expected to present a proposition, setting forth the situation and their demands, in a very short time.

## GOVERNOR WILL BAR AFTERNOON CALLERS

"No afternoon callers" for the next three or four weeks, is the edict issued today by Governor Fessenden. Burdened by the stress of many important conferences with Territorial officials on matters of importance, and by the vast amount of labor to be done in preparing his annual report, the executive today decided that his afternoons must be given over to these without interruption.

Hereafter, probably until September 1, persons desiring to visit the Governor on social or even official business, must make their appointments for the morning hours, and it is likely that none will be admitted to his chambers after the noon hour unless called by him.

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logical conclusion that only those roads that take care of the larger percentage of the traffic or 20 per cent. of all roads should be improved by the proceeds of bond issues.

**Pertinent Points.** The following points were made by Bishop during the course of his talk:

The macadam road of today is made as follows: The first course is laid of stone 1 1/2 inches in diameter and is three inches thick, the subsoil being thoroughly rolled first. The next course is laid of 1 1/2-inch stone. This is filled with screenings, sprinkled, rolled and puddled. Sometimes it is necessary for a second puddling.

While macadam roads have been popular in the past, automobile traffic has revolutionized ideas in the East, although it will be some time before Hawaii feels the effect of it. Some more permanent form of paving was found necessary and bituminous construction has jumped into favor. This is usually incorporated at the time of construction.

Highway surfaces are composed of the following substances: For pavements—Wood block, stone block, asphalt block, sheet asphalt, brick, concrete and bituminous. For roads—Earth, sand, clay, gravel, macadam, slate and shell. Macadam may be subdivided into water bound and bituminous. The latter may be made by surface treatment, the penetration method or by mixing. The latter Bishop considers the best.

**Light Oil Valueless.** Unless it is an oil like that which comes from California, Bishop is not in favor of putting down "light" oil surface. The tars are falling out of use and the heavy and medium asphaltic oils are making a rapid rise.

The character of the Hawaii belt road: It has a 6-inch subbase. There is an edging of stone to hold subbase and macadam in place. Owing to lack of funds there is nothing fancy about it, but it is serviceable and should be durable. Its width, 16 feet, is more than the general average throughout the Union. Bishop does not think Hawaii wants wide roads for many years, but has made provision in his plans in case they are needed so that the road can be widened without affecting the present road. There is a crown with a grade of one-half inch to the foot.

It is not advisable to take water off a road too fast, as it is liable to wash away the surface, on a high crown.

**Favors Low Crown.** On a high crowned road all the traffic is liable to concentrate on the center of the road. On a low crowned road the traffic spreads and the wear is more even.

The cost of building roads in Hawaii on the windward side averages about the same as in California—\$15,000 per mile.

Where the life of a macadam road is likely to be less than ten years, it pays to put down a permanent pavement.

It is imperative for a road to be maintained after it is built. It will go to pieces otherwise, and this is only a foolish waste of money. Macadam is very perishable and a "maintenance gang" should be kept going all the time and should take charge as soon as the contractor has finished.

The lack of a systematic and permanently organized maintenance gang has been the main source of trouble with roads on Hawaii. Such systems are in vogue in Europe, France and England and some parts of the United States.

The prevailing idea is that once a macadam road is built it will last for all time. This is a great fallacy.

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